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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/448,144	11/24/1999	MASAHIRO SAITOU	0039-7444-0T	4711

22850 7590 08/28/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

19  
EXAMINER

MERCADO, JULIAN A

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 08/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/448,144

Applicant(s)

SAITOU ET AL

Examiner

Julian Mercado

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 6-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-5, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 18.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Remarks***

This Office Action is responsive to applicant's amendment filed January 31, 2003.

Acknowledgement is made of applicant's perfection of foreign priority in submitting a translation of said foreign application in accordance with 37 CFR 1.55. In view thereof, the rejection of claims 1-5 and 17 under 35 U.S.C. 102(a) based on Fukui et al. (WO99/19927) has been withdrawn.

This Office Action presents a new ground of rejection and is therefore made NON-FINAL.

### ***Information Disclosure Statement***

The documents cited in IDS Paper No. 18 filed January 31, 2003 have been fully considered. The examiner notes that the four Japanese references cited therein correspond to the four priority documents of the Fukui et al. '598 patent relied on by the examiner in the previous Office Action (rejection now withdrawn). In view of applicant's perfection of foreign priority, these four Japanese references are not available as prior art against the presently claimed invention.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Li et al.

(U.S. Pat. 5,624,769).

Regarding independent claim 1 and dependent claims thereto as further noted, Li et al. teaches a separator substrate [50] such as aluminum, *inter alia*, for a proton exchange fuel cell having a multi-coating layer comprising a low electric resistance layer [54] and a corrosion resistance layer, i.e. “dense oxide layer which inhibits further corrosion” formed on top of “barrier/protective layer 52”(col. 3 line 17-56, also applies to dependent claim 4). Note that the low electric resistance layer has a resistance of 15-20  $\mu\Omega\cdot\text{cm}$  and formed of chromium, *inter alia*. (col. 3 line 26, line 43, also applies to dependent claim 5)

As to dependent claim 2 which requires the multi-coating layer in specified layered order, the structure of Li et al. results in a substrate [50], barrier/protective layer [52], dense oxide layer, i.e. corrosion resistance layer and low electric resistance layer [54]. The barrier/protective layer is considered a peeling resistance layer to the extent that Li et al. specifically disclose this layer to be one that is “[s]trong, pinhole-free”. (col. 3 line 62 et seq.)

As to dependent claim 3 which requires the peeling resistance layer and the corrosion resistance layer provided as one layer, the barrier/protective layer [52] and the corrosion resistance layer is considered to be made as one layer to the extent that the corrosion resistance layer is a native oxide of the peeling resistance layer. That is, the peeling resistance layer and the corrosion resistance layer are mutually extensive layers.

As to dependent claim 17, the peeling resistance layer is alternatively disclosed of nickel such as nickel-phosphorus. (col. 3 line 36-41)

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 16 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Li et al. as applied to claims 1-5 and 17 above.

Of note, while the process by which the separator is prepared has not been given patentable weight (especially in view of the method claims having been withdrawn from consideration), Li et al. teaches a coating process for forming the separator such as exemplified by the process of sputtering, CVD or electroless deposition. (col. 3 line 17-62)

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (703) 305-0511. The examiner can normally be reached on Monday through Friday.

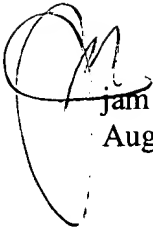
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to be "jam" with a large, stylized loop at the beginning.

August 11, 2003

A handwritten signature in black ink, appearing to be "Patrick Ryan" with a stylized, horizontal flourish.

Patrick Ryan  
Supervisory Patent Examiner  
Technology Center 1700